



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,331	04/12/2010	Patrick Fontaine	PF030159	3620
7590	04/12/2010			
Joseph J Laks Patent Operations Thomson Licensing Inc PO Box 5312 Princeton, NJ 08543-5312			EXAMINER REGO, DOMINIC E	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 04/12/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,331	<b>Applicant(s)</b> FONTAINE ET AL.
	<b>Examiner</b> DOMINIC E. REGO	<b>Art Unit</b> 2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 January 2010.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9, 15 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9, 15 and 18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/GS-68)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This communication is responsive to the application filed on January 01, 2010.

Claims 1-9,15, and 18 are pending and presented for prosecution.

Claim 1 has been amended.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3,5-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152).

**Regarding claim 1,** Admitted Prior Art teaches a method of communication in transmitting/receiving stations in a wireless communication network, in which multi-receiver frames are exchanged between a station and a plurality of other stations indicating the transmitting station and the receiving station operate in an omnidirectional manner using omnidirectional antennas at the transmitting station and at the receiving station (Page 2, lines 5-8; lines 21-27), and mono-receiver frames are exchanged between the transmitting station and the receiving station (Page 2, lines 23-24), but

Art Unit: 2618

does not specifically teach when operating in a directional manner using a directional antennas at the transmitting station and at the receiving station, wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna.

However, in related art, Okawa teaches when operating in a directional manner using a directional antennas at the transmitting station and at the receiving station (See Abstract, Col 3, line 25-col 4, line 37, Col 5, lines 32-45, Claims 1, 6, and 7, especially col 5, lines 32-45, Okawa teaches a mobile communication system 100 comprises a base station 10, a radio network control equipment 20, and a plurality of mobile stations 30. The base station 10 connects radio links with the mobile stations 30 existing in each sector, and performs signal reception/transmission. The base station 10 has both an array antenna and a sector antenna for each sector. The array antenna is a directional antenna that receives/transmits directional beams. The array antenna transmits a beam by narrowing it to each mobile station 30. The sector antenna is an omnidirectional antenna that receives/transmits omnidirectional beams. The sector antenna transmits a beam that covers the entire sector so that all mobile stations 30 in the sector may receive signals). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Okawa to Admitted Prior Art in order to suppress the interference power from other mobile stations (See Okawa, Col 1, lines 28-32).

The combination of Admitted Prior Art and Okawa fail to teach wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna.

However, in related art, Proctor, Jr. teaches wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Admitted Prior Art and Okawa in order to reduce interference.

**Regarding claim 2,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method according to claim 1, wherein the more robust transmission is effected at a lower throughput than the less robust transmission (Col 4, line 59-Col 5, line 33).

**Regarding claim 3,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method, wherein the mono-receiver frames are modulated by a modulation with a first number of phases and in that the multi-receiver frames are modulated by a modulation with a second number of phases, and in that the first number of phases is greater than the second number of phases (Col 4, line 59-Col 5, line 33).

**Regarding claim 5,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Proctor, Jr. teaches the method, wherein the mono-receiver frames are coded with a first forward error

correction rate and the multi-receiver frames are coded with a second forward error correction rate, and in that the first rate is higher than the second rate (Col 4, line 59-Col 5, line 33).

**Regarding claim 6,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 5. In addition, Admitted Prior Art teaches the method, wherein the mono-receiver frames and the multi-receiver frames are modulated by the same modulation (Page 2, lines 17-36).

**Regarding claim 7,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claims 5 and 12. In addition, Admitted Prior Art teaches the method, wherein the transmission is in compliance with one of the standards belonging to the set comprising: Hiperlan type 2; and IEEE802.11a (Page 1, lines 24-25).

**Regarding claim 8,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 1. In addition, Admitted Prior Art teaches the method, wherein the transmission is in compliance with IEEE 802.11g (Page 1, lines 24-25).

**Regarding claim 9,** Admitted Prior Art teaches a transmitting and/or receiving station for a wireless communication network, wherein said station comprises an omnidirectional antenna (Page 2, lines 25-27) to transmit and/or receive multi-receiver frames in an omnidirectional manner indicating the transmitting and the receiving station (Page 2, lines 5-8; lines 21-27) and at least one antenna to transmit and/or receive mono-receiver frames (Page 2, lines 23-24), determined by the multi-receiver frames

(Page 2, lines 5-25), but does not specifically teach directional antenna to transmit and receive in a directional manner and the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner.

However, in related art, Okawa teaches directional antenna to transmit and receive in a directional manner (*See Abstract, Col 3, line 25-col 4, line 37, Col 5, lines 32-45, Claims 1, 6, and 7, especially col 5, lines 32-45, Okawa teaches a mobile communication system 100 comprises a base station 10, a radio network control equipment 20, and a plurality of mobile stations 30. The base station 10 connects radio links with the mobile stations 30 existing in each sector, and performs signal reception/transmission. The base station 10 has both an array antenna and a sector antenna for each sector. The array antenna is a directional antenna that receives/transmits directional beams. The array antenna transmits a beam by narrowing it to each mobile station 30. The sector antenna is an omnidirectional antenna that receives/transmits omnidirectional beams. The sector antenna transmits a beam that covers the entire sector so that all mobile stations 30 in the sector may receive signals*). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Okawa to Admitted Prior Art in order to suppress the interference power from other mobile stations.

The combination of Admitted Prior Art and Okawa fail to teach the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner

However, in related art, Proctor, Jr. teaches the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33). Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Proctor, Jr. to Admitted Prior Art and Okawa in order to reduce interference.

**Regarding claim 18,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claim element in claim 9. In addition, Proctor, Jr. teaches wireless communication network wherein it comprises several transmitting and/or receiving stations (Proctor, Jr., Figure 2 and Admitted Prior Art, Page 1, lines 33-35).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Trompower (US Patent #6,132,306).

**Regarding claim 4,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. fail to teach the method, wherein the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation.

However, in related art, Trompower teaches the method, wherein the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation (Col 11, lines 17-34). Therefore, it would have obvious to one of ordinary skill in the art at the time of the

invention to provide the above teaching of Trompower to Admitted Prior Art, Okawa and Proctor, Jr. in order to avoid interference.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art in view of Okawa et al (US Patent #7,099,697) in view of Proctor, Jr. et al. (US Patent #6,941,152) and further in view of Pekonen et al. (US Patent #7,092,672).

**Regarding claim 15,** the combination of Admitted Prior Art, Okawa and Proctor, Jr. teach all the claimed elements in claim 9, except the station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another.

However, in related art, Pekonen teaches station, wherein it comprises four directional antennas oriented at 90 degree with respect to one another (Col 4, lines 35-55).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Pekonen to Admitted Prior Art, Okawa and Proctor, Jr. in order to enable the antenna's angle of coverage to be adjusted.

6. Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully

Art Unit: 2618

consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. SEE MPEP 2141.02 [R-5] VI. PRIOR ART MUST BE CONSIDERED IN ITS ENTIRETY, INCLUDING DISCLOSURES THAT TEACH AWAY FROM THE CLAIMS: A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In re Fulton, 391 F.3d 1195, 1201,73 USPQ2d 1141, 1146 (Fed. Cir. 2004). >See also MPEP §2123.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-9, 15, and 18 have been considered but are moot in view of the new ground(s) of rejection. Regarding claim 1, Applicant argues that Okawa fails to teach multi-receiver frames exchanged between a transmitting station and a plurality of receiving stations using omnidirectional antennas at the transmitting station and at the receiving station and mono-receiver frames exchanged between the transmitting station and the receiving station using directional antennas at the transmitting station and at the receiving station. The use of both omnidirectional antennas and directional antennas at both transmitting and receiving stations is simply not addressed in Okawa at all. The Examiner respectfully disagrees. Above limitations "multi-receiver frames exchanged between a transmitting station and a plurality of receiving stations using omnidirectional antennas at the transmitting station

Art Unit: 2618

and at the receiving station and mono-receiver frames exchanged between the transmitting station and the receiving station using directional antennas at the transmitting station and at the receiving station" are taught by admitted prior art. See page 2, lines 5-27, admitted prior art teaches a first station wishing to dispatch data to a second station sends an RTS frame to all the stations located in its transmission field to reserve their communication medium for a certain duration while indicating the source, the destination and the duration of the transaction. Further, admitted prior art teaches the RTS and CTS frames are multi-receiver frames that have to be received by all the stations (using omni-directional antennas) of the network that are liable to communicate with the two stations, while the DATA and ACK frames are mono-receiver frames that have only to be received by the two stations that are communicating (using directional antennas which is inherent). Further, above underlying part Applicant argues that the use of both omnidirectional antennas and directional antennas at both transmitting and receiving stations is simply not addressed in Okawa at all. The Examiner respectfully disagrees. Figure 6A of Okawa clearly teaches that 4a is dedicated channel directional transmission beam pattern and 3b common channel omnidirectional transmission beam pattern. See also abstract, Col 3, line 25-col 4, line 37, Col 5, lines 32-45, Col 10, lines 3-31; Claims 1, 6, and 7, especially Col 10, lines 3-31). Further, page 7, lines 3-11 of the Remarks, Applicant refers to the Labonte reference, however it appears that this is a typographical error and the Applicant had intended Protor, Jr. Applicant's argues that Proctor, Jr. fails to teach multi-receiver frames exchanged between a transmitting station and a plurality of receiving stations using omnidirectional antennas at the

transmitting station and at the receiving station and mono-receiver frames exchanged between the transmitting station and the receiving station using directional antennas at the transmitting station and at the receiving station. However, according to the office action mailed on 09/17/2009 and above explanation, those limitation are taught by admitted prior art and OKawa. Proctor, Jr. teaches wherein the transmission in an omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner using a directional antenna (Col 1, lines 18-48; Col 4, line 59-Col 5, line 33).

For the reasons as set forth above, the examiner contends that the rejection to 1-9, 15, and 18 is proper.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dominic E. Rego/  
Examiner, Art Unit 2618  
Tel 571-272-8132

/Duc Nguyen/

Application/Control Number: 10/575,331

Page 13

Art Unit: 2618

Supervisory Patent Examiner, Art Unit 2618